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☐ 1. Document ID: US 6772180 B1

L1: Entry 1 of 3

File: USPT

Aug 3, 2004

US-PAT-NO: 6772180

DOCUMENT-IDENTIFIER: US 6772180 B1

TITLE: Data representation schema translation through shared examples

DATE-ISSUED: August 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Li; Chung-Sheng	Ossining	NY		
Mohan; Rakesh	Stamford	CT		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
International Business Machines Corporation	Armonk	NY				02

APPL-NO: 09/ 235793 [PALM]

DATE FILED: January 22, 1999

INT-CL: [07] G06 F 17/21

US-CL-ISSUED: 707/513; 707/100

US-CL-CURRENT: 715/513; 707/100

FIELD-OF-SEARCH: 707/100, 707/103, 707/513

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4680705	July 1987	Shu	364/300
4951196	August 1990	Jackson	364/401
5187787	February 1993	Skeen et al.	709/314
5699415	December 1997	Wagner	380/43
5897622	April 1999	Blinn et al.	705/26
5915259	June 1999	Murata	707/513

<u>5960200</u>	September 1999	Eager et al.	703/13
<u>6018743</u>	January 2000	Xu	707/103R
<u>6223168</u>	April 2001	McGurl et al.	705/39
<u>6243451</u>	June 2001	Shah et al.	370/352
<u>6253254</u>	June 2001	Erlenkoetter et al.	707/10

ART-UNIT: 2177

PRIMARY-EXAMINER: Robinson; Greta

ASSISTANT-EXAMINER: Pannala; S R

ATTY-AGENT-FIRM: Dang; Thu Ann

ABSTRACT:

A method for translating data from one representation or schema to another representation or schema. Example data encoded in both the schemas is used to generate a translator. This translator is then used for automatically translating data from one schema to another. The translator is computed by finding corresponding paths for matched data elements. When new data is presented in one schema, the translator then gives the translation for the paths of data elements in the data. A translated data is then constructed by using these translated paths. Possible applications in the Internet domain, include but are not limited to: EDI; search engines; content ingestion; content customization; data delivery; and data retrieval. Specific examples are shown for generating a translator and translating data between various schema including HTML, XML and extensions thereto such as SpeechML.

47 Claims, 15 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	RMK	Draw D
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☐ 2. Document ID: US 6513059 B1

L1: Entry 2 of 3

File: USPT

Jan 28, 2003

US-PAT-NO: 6513059

DOCUMENT-IDENTIFIER: US 6513059 B1

TITLE: Adaptive collaborative intelligent network system

DATE-ISSUED: January 28, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gupta; Pradeep	Milpitas	CA		
Kondratiev; Dmitri	Moscow			RU

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Cambira Corporation	Santa Clara	CA			02

APPL-NO: 09/ 648299 [PALM]
DATE FILED: August 24, 2000

INT-CL: [07] G06 F 15/16

US-CL-ISSUED: 709/202
US-CL-CURRENT: 709/202

FIELD-OF-SEARCH: 709/202, 709/203, 709/249

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>6134548</u>	October 2000	Gottzman et al.	707/5
<u>6199099</u>	March 2001	Gershman et al.	709/203
<u>6275859</u>	August 2001	Weseley et al.	709/229
<u>6356905</u>	March 2002	Gershman	707/10
<u>6401085</u>	June 2002	Gershman et al.	707/4

ART-UNIT: 2155

PRIMARY-EXAMINER: Eng; David Y.

ATTY-AGENT-FIRM: Schipper; John F.

ABSTRACT:

System and method for facilitating exchange of information on a computer network, such as the Internet. The system provides one or more context trees, with each tree including two or more connected nodes, each node being associated with one or more selected node objects. Associated with each node is a blackboard for receiving and making available for reading, messages concerning the node object, a knowledge base containing information, facts, constraints and-or rules (Rules) concerning the node object, and an inference engine providing at least one logical rule that can be used to infer a logical conclusion based on at least one Rule in the knowledge base. A tree has a collection of at least two mobile intelligent agents that are configured to facilitate exchange of information on a node object, between two agents or between a node and an agent. An agent may migrate from a first node to a second node connected to the first node. An agent, by subscribing to the Rules of a node, is permitted to post a message on, and to read a message posted on, a blackboard for the subscribed node. The collection of agents has at least one tree agent that has knowledge of nodes that are directly connected to each node in the tree.

34 Claims, 8 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMOC	Draw. De
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☐ 3. Document ID: US 5794050 A

L1: Entry 3 of 3

File: USPT

Aug 11, 1998

US-PAT-NO: 5794050

DOCUMENT-IDENTIFIER: US 5794050 A

TITLE: Natural language understanding system

DATE-ISSUED: August 11, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dahlgren; Kathleen	Los Angeles	CA		
Stabler; Edward	Los Angeles	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Intelligent Text Processing, Inc.	Santa Monica	CA				02

APPL-NO: 08/ 943069 [PALM]

DATE FILED: October 2, 1997

PARENT-CASE:

This is a continuation of application Ser. No. 08/369,034 filed on Jan. 4, 1995 now abandoned.

INT-CL: [06] G06 F 9/45

US-CL-ISSUED: 395/708; 395/705, 395/707

US-CL-CURRENT: 717/144; 717/114, 717/149

FIELD-OF-SEARCH: 395/705, 395/707, 395/708

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4887212</u>	December 1989	Zamora et al.	364/419.08
<u>4974191</u>	November 1990	Amnirghodsi et al.	364/419.08
<u>5062074</u>	October 1991	Kleinberger	395/600
<u>5200893</u>	April 1993	Ozawa et al.	364/419.1
<u>5265065</u>	November 1993	Turtle	
<u>5331554</u>	July 1994	Graham	364/419.07
<u>5331556</u>	July 1994	Black, Jr. et al	395/759
<u>5369577</u>	November 1994	Kadashevich et al.	364/419.13
<u>5404295</u>	April 1995	Katz et al.	364/419.19
<u>5418948</u>	May 1995	Turtle	395/600
<u>5488725</u>	January 1996	Turtle	395/600
<u>5519608</u>	May 1996	Kupiec	364/419.08
<u>5526259</u>	June 1996	Kaji	364/419.03

5541836

July 1996

Church et al.

364/419.07

OTHER PUBLICATIONS

Dahlgren, K., "Naive Semantics for Natural Language Understanding," Kluwer Academic Publishers, Norwell, MA, CH's 1-8, 1988.

ART-UNIT: 274

PRIMARY-EXAMINER: Voeltz; Emanuel Todd

ASSISTANT-EXAMINER: Corcoran, III; Peter J.

ATTY-AGENT-FIRM: Hecker & Harriman

ABSTRACT:

The present invention interprets natural language input using common sense reasoning. The invention avoids the combinatorial explosion that has occurred in other natural language understanding systems. The invention uses modules for parsing, disambiguation, formal semantics, anaphora resolution, and coherence, and a naive semantic lexicon. The naive semantic lexicon is consulted by the parsing, disambiguation, formal semantics, anaphora resolution, and coherence modules to determine whether an interpretation alternative is plausible based on the world knowledge contained in the naive semantic lexicon. The parsing module employs both a top-down and bottom-up parsing strategy. The parsing module consults the naive semantic lexicon to build a structure from natural language input that has both semantic and pragmatic plausibility. The invention uses a psychologically-motivated naive semantic ontology that provides a means for classifying concepts. The lexicon relates word senses to the ontological concepts, contains word sense-specific common sense knowledge, and connects syntactic information with the meaning of each word sense. Using the natural language understanding of the present invention, a process is used for retrieving text that includes the steps of: 1) natural language understanding of a document base, 2) natural language understanding of a text retrieval request (i.e., query), 3) a comparison of the output of steps 1 and 2.

30 Claims, 9 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	RWC	Draw D
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Term	Documents
ONTOLOGY	162
ONTOLOGIES	77
ONTOLOGYS	2
DESCRIPTION	2892417
DESCRIPTIONS	123491
(ONTOLOGY NEAR DESCRIPTION).USPT.	3
(ONTOLOGY NEAR DESCRIPTION).USPT.	3

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☐ 1. Document ID: US 6564263 B1

L4: Entry 1 of 1

File: USPT

May 13, 2003

US-PAT-NO: 6564263

DOCUMENT-IDENTIFIER: US 6564263 B1

TITLE: Multimedia content description framework

DATE-ISSUED: May 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bergman; Lawrence David	Mt. Kisco	NY		
Kim; Michelle Yoonk Yung	Scarsdale	NY		
Li; Chung-Sheng	Ossining	NY		
Mohan; Rakesh	Stamford	CT		
Smith; John Richard	New Hyde Park	NY		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
International Business Machines Corporation	Armonk	NY				02

APPL-NO: 09/ 456031 [PALM]

DATE FILED: December 3, 1999

PARENT-CASE:

This application claims priority to U.S. Provisional Application Serial No. 60/110,902, filed on Dec. 4, 1998.

INT-CL: [07] G06 F 7/00, G06 F 15/00, G06 F 17/30, G06 F 15/16

US-CL-ISSUED: 709/231; 707/3, 707/101, 707/500.1, 707/104.1, 709/232

US-CL-CURRENT: 709/231; 707/101, 707/104.1, 707/3, 709/232, 715/500.1

FIELD-OF-SEARCH: 709/231, 709/232, 707/101, 707/104.1, 707/500.1, 725/53, 725/135, 725/136, 725/137

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>6014671</u>	January 2000	Castelli et al.	707/101
<u>6061689</u>	May 2000	Chang et al.	707/103
<u>6181332</u>	January 2001	Salahshour et al.	345/302
<u>6181817</u>	January 2001	Zabith et al.	382/170
<u>6223183</u>	April 2001	Smith et al.	707/102
<u>6232974</u>	May 2001	Horvitz et al.	345/419
<u>6249423</u>	May 2001	Hirata	707/104
<u>6282549</u>	August 2001	Hoffert et al.	707/104
<u>6317795</u>	November 2001	Malkin et al.	709/246
<u>6326965</u>	December 2001	Castelli et al.	345/420
<u>6345279</u>	February 2002	Li et al.	707/104
<u>6377995</u>	April 2002	Agraharam et al.	709/231
<u>6411724</u>	June 2002	Vaithiligam et al.	382/100

OTHER PUBLICATIONS

Chung-Sheng Li, Rakesh Mohan, John R. Smith, "Multimedia Content Description In The InfoPyramid", May 1998, IEEE Proc. Int. Conf. Acoust., Speech, Signal Processing (ICASSP).*

John R. Smith, Rakesh Mohan, Chung-Sheng Li, "Scalable Multimedia Delivery for Pervasive Computing", Oct. 1999, ACM Multimedia.*

John R. Smith, Rakesh Mohan, Chung-Sheng Li, "Content-Based Transcoding of Images In the Internet", Oct. 1998, Proc. IEEE Proc. Int. Conf. Image Processing (ICIP), Chicago, IL.*

Rakesh Mohan, John R. Smith, Chung-Sheng Li, "Adapting Multimedia Internet Content for Universal Access", Mar. 1999, IEEE Transactions on Multimedia, vol. 1, No. 1.

ART-UNIT: 2753

PRIMARY-EXAMINER: Dinh; Dung C.

ASSISTANT-EXAMINER: Johnson; Marlon

ATTY-AGENT-FIRM: Cameron; Douglas W.

ABSTRACT:

A framework is provided for describing multimedia content and a system in which a plurality of multimedia storage devices employing the content description methods of the present invention can interoperate. In accordance with one form of the present invention, the content description framework is a description scheme (DS) for describing streams or aggregations of multimedia objects, which may comprise audio, images, video, text, time series, and various other modalities. This description scheme can accommodate an essentially limitless number of descriptors in terms of features, semantics or metadata, and facilitate content-based search, index, and retrieval, among other capabilities, for both streamed or aggregated multimedia objects.

2 Claims, 19 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw.

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Term	Documents
SEMANTIC	4167
SEMANTICS	4322
DESCRIPTION	2892417
DESCRIPTIONS	123491
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(L3 AND (SEMANTIC NEAR DESCRIPTION)).USPT.	1

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